

IN THE CLAIMS

1 – 47 (canceled)

48. (new) A modular power converter comprising:

a converter including a support including a passage for circulation of a cooling medium and a power electronic switching circuit mounted on the support and configured to convert input power to output power having desired electrical characteristics;

a housing at least partially surrounding the converter; and

at least one plug-in connector coupled to the switching circuit and to the housing for establishing electrical continuity between the converter and external circuitry.

49. (new) The converter of claim 48, wherein the housing shields the switching circuit from EMI, and wherein the at least one connector extends EMI shielding from the housing to a region at least partially surrounding conductors of the at least one connector.

50. (new) The converter of claim 48, wherein the at least one connector includes a single connector having electrical connections for the input power and the output power.

51. (new) The converter of claim 48, wherein the single connector includes connections for incoming and outgoing cooling fluid.

52. (new) The converter of claim 48, wherein the at least one connector includes a first connector for routing the input power into the housing and a second connector for routing output power from the housing.

53. (new) The converter of claim 52, wherein the first and second connectors are disposed on a same side of the housing.

54. (new) The converter of claim 52, wherein the first and second connectors are disposed on opposite sides of the housing.

55. (new) The converter of claim 52, wherein the first and second connectors are disposed on adjacent sides of the housing.

56. (new) The converter of claim 48, further comprising a fluid connector for routing the cooling medium to and from the converter.

57. (new) The converter of claim 56, wherein the fluid connector is disposed on a different side of the housing from the at least one connector.

58. (new) A modular power converter comprising:
a converter including a support including a passage for circulation of a cooling medium and a power electronic switching circuit mounted on the support and configured to convert input power to output power having desired electrical characteristics;
a housing at least partially surrounding the converter and configured to provide integral EMI shielding and at least partially defining an electrical reference plane for the converter; and
at least one plug-in connector coupled to the switching circuit and to the housing for establishing electrical continuity between the converter and external circuitry and for extending EMI shielding from the housing to a region at least partially surrounding conductors of the at least one connector.

59. (new) The converter of claim 58, wherein the housing and the at least one connector are configured to provide contiguous shielding having intrinsically low impedance paths for EMI originating from the switching circuit and from sources external to the converter during operation.

60. (new) The converter of claim 58, wherein the at least one connector includes a single connector having electrical connections for the input power and the output power.

61. (new) The converter of claim 58, wherein the single connector includes connections for incoming and outgoing cooling fluid.

62. (new) The converter of claim 58, wherein the at least one connector includes a first connector for routing the input power into the housing and a second connector for routing output power from the housing.

63. (new) The converter of claim 62, wherein the first and second connectors are disposed on a same side of the housing.

64. (new) The converter of claim 62, wherein the first and second connectors are disposed on opposite sides of the housing.

65. (new) The converter of claim 62, wherein the first and second connectors are disposed on adjacent sides of the housing.

66. (new) The converter of claim 58, further comprising a fluid connector for routing the cooling medium to and from the converter.

67. (new) The converter of claim 66, wherein the fluid connector is disposed on a different side of the housing from the at least one connector.

68. (new) A modular power converter comprising:
a converter including a support including a passage for circulation of a cooling medium and a power electronic switching circuit mounted on the support and configured to convert input power to output power having desired electrical characteristics;

a housing at least partially surrounding the converter and configured to provide integral EMI shielding and at least partially defining an electrical reference plane for the converter;
at least one plug-in connector coupled to the switching circuit and to the housing; and
a connector plug adapted to interface with the at least one plug-in connector for establishing electrical continuity between the converter and external circuitry;
wherein the at least one plug-in connector and the connector plug mate to extend EMI shielding from the housing to a the connector plug.

69. (new) The converter of claim 68, wherein the housing, the at least one connector and the connector plug are configured to provide contiguous shielding having intrinsically low impedance paths for EMI originating from the switching circuit and from sources external to the converter during operation.

70. (new) The converter of claim 68, wherein the at least one connector includes a single connector having electrical connections for the input power and the output power.

71. (new) The converter of claim 68, wherein the single connector includes connections for incoming and outgoing cooling fluid.

72. (new) The converter of claim 68, wherein the at least one connector includes a first connector for routing the input power into the housing and a second connector for routing output power from the housing.

73. (new) The converter of claim 72, wherein the first and second connectors are disposed on a same side of the housing.

74. (new) The converter of claim 72, wherein the first and second connectors are disposed on opposite sides of the housing.

75. (new) The converter of claim 72, wherein the first and second connectors are disposed on adjacent sides of the housing.

76. (new) The converter of claim 68, further comprising a fluid connector for routing the cooling medium to and from the converter.

77. (new) The converter of claim 76, wherein the fluid connector is disposed on a different side of the housing from the at least one connector.